

WHAT IS CLAIMED IS:

1. A method of scheduling USB transaction processing tasks comprising:
 configuring at least one periodic queue head list associated with a USB host
 controller, wherein each of the at least one periodic queue head lists is
 configurable to be processed once every polling period;
 linking at least one of a plurality of entries in a frame list of the USB host controller to
 identify a corresponding periodic queue head list; and
 assigning a USB transaction processing task processed by the USB host controller to
 one of the at least one periodic queue head list.

2. The method of claim 1, wherein each of the periodic queue head list describes
 a location of a list of the at least one USB transaction processing task scheduled to be
 processed during the polling period.

3. The method of claim 1, wherein each of the plurality of entries in the frame
 list is processed within a predefined time slot, wherein the plurality of entries of the frame list
 are consecutively processed from a first entry to an Nth entry, wherein the Nth entry
 identifies a Nth periodic queue head list, wherein a Nth polling period of the Nth periodic
 queue head list is defined as N time slots.

4. The method of claim 1, further comprising:
 removing the at least one USB transaction processing task from the periodic queue
 head list on determination that the at least one USB transaction processing task
 is no longer necessary.

5. The method of claim 1, wherein each of the plurality of entries in the frame
 list is linked to identify the corresponding periodic queue head list.

6. The method of claim 1, wherein the polling period for each periodic queue list is configurable as 2^N milliseconds, wherein N varies from 1 to 10.

7. The method of claim 1, further comprising:
balancing USB transaction processing load by linking at least one unused entry included in the frame list to identify a new corresponding periodic queue head list.

8. The method of claim 1, further comprising:
balancing USB transaction processing load by linking at least one unused entry included in the frame list to identify the at least one periodic queue head list.

9. The method of claim 1, wherein assigning the USB transaction processing task to one of the at least one periodic queue head list comprises matching a desired response time for the USB transaction processing task with the polling period of the at least one periodic queue head list.

10. A computer system comprising:
a processor;
a memory coupled to the processor, wherein a program is stored in the memory;
a USB host controller coupled to the processor and the memory; and
wherein the program is enabled to:
store at least one periodic queue head list associated with a USB host controller in the memory, wherein each of the at least one periodic queue head lists is configurable to be processed once every polling period;

link at least one of a plurality of entries in a frame list of the USB host controller to identify a corresponding periodic queue head list stored in the memory; and assign a USB transaction processing task processed by the USB host controller to one of the at least one periodic queue head list stored in the memory.

11. The computer system of claim 10, wherein each of the at least one periodic queue head list describes a location of a list of the at least one USB transaction processing task scheduled to be processed during the polling period.

12. The computer system of claim 10, wherein the at least one of the plurality of entries in the frame list is processed within a predefined time slot, wherein the plurality of entries of the frame list are consecutively processed from a first entry to an Nth entry, wherein the Nth entry identifies a Nth periodic queue head list, wherein a Nth polling period of the Nth periodic queue head list is defined as N time slots.

13. The computer system of claim 10, further comprising: removing the USB transaction processing task from the periodic queue head list on determination that the USB transaction processing task is no longer necessary.

14. The computer system of claim 10, wherein each of the plurality of entries in the frame list is linked to identify the corresponding periodic queue head list.

15. The computer system of claim 10, wherein the polling period for each periodic queue list is configurable as 2^N milliseconds, wherein N varies from 1 to 10.

16. The computer system of claim 10, further comprising: balancing USB transaction processing load by linking at least one unused entry included in the frame list to identify a new corresponding periodic queue head list.

17. The computer system of claim 10, further comprising:
balancing USB transaction processing load by linking at least one unused entry
included in the frame list to identify the at least one periodic queue head list.

18. The computer system of claim 10, wherein assigning the USB transaction
processing task to one of the at least one periodic queue head list comprises matching a
desired response time for the USB transaction processing task with the polling period of the
at least one periodic queue head list.

19. A computer-readable medium having a computer program accessible
therefrom, wherein the computer program comprises instructions for:
storing at least one periodic queue head list associated with a USB host controller in a
memory, wherein each of the at least one periodic queue head lists is
configurable to be processed once every polling period;
linking at least one of a plurality of entries in a frame list of the USB host controller to
identify a corresponding periodic queue head list stored in the memory; and
assigning a USB transaction processing task processed by the USB host controller to
one of the at least one periodic queue head list stored in the memory.

20. The computer-readable medium of claim 19, wherein each of the at least one
periodic queue head list describes a location of a list of the at least one USB transaction
processing task scheduled to be processed during the polling period.

21. The computer-readable medium of claim 19, wherein the at least one of the
plurality of entries in the frame list is processed within a predefined time slot, wherein the
plurality of entries of the frame list are consecutively processed from a first entry to an Nth
entry, wherein the Nth entry identifies a Nth periodic queue head list, wherein a Nth polling
period of the Nth periodic queue head list is defined as N time slots.

22. The computer-readable medium of claim 19, further comprising:
removing the USB transaction processing task from the periodic queue head list on
determination that the USB transaction processing task is no longer necessary.

23. The computer-readable medium of claim 19, wherein each of the plurality of
entries in the frame list is linked to identify the corresponding periodic queue head list.

24. The computer-readable medium of claim 19, wherein the polling period for
each periodic queue list is configurable as 2^N milliseconds, wherein N varies from 1 to 10.

25. The computer-readable medium of claim 19, further comprising:
balancing USB transaction processing load by linking at least one unused entry
included in the frame list to identify a new corresponding periodic queue head
list.

26. The computer-readable medium of claim 19, further comprising:
balancing USB transaction processing load by linking at least one unused entry
included in the frame list to identify the at least one periodic queue head list.

27. The computer-readable medium of claim 19, wherein assigning the USB
transaction processing task to one of the at least one periodic queue head list comprises
matching a desired response time for the USB transaction processing task with the polling
period of the at least one periodic queue head list.